

Consulting
Engineers and
Scientists

MassDEP RTN 3-23246

Release Abatement Measure Plan Modification 1 and Status Report 1

50 Tufts Street, Somerville, Massachusetts

Submitted to:

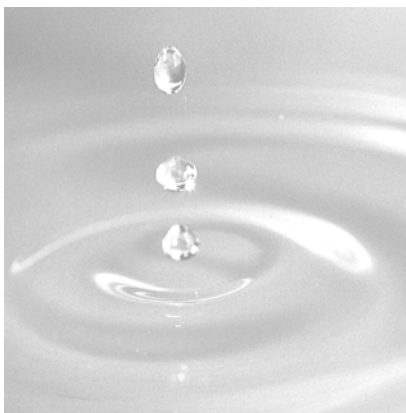
Massachusetts Department of Environmental Protection
Northeast Regional Office
150 Presidential Way
Woburn, MA 01801

Submitted by:

GEI Consultants, Inc.
400 Unicorn Park Drive
Woburn, MA 01801
781-721-4000

November 1, 2023

Project 045163



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Executive Summary

GEI Consultants, Inc. prepared this Release Abatement Measure (RAM) Plan Modification 1 and Status Report No. 1 for Randal and Adriana Isaac (the Owners) of Somerville, Massachusetts for response actions associated with the renovation of 10 Morton Street in Somerville, Massachusetts (the Property). The Property is located within a Massachusetts Department of Environmental Protection (MassDEP) listed disposal site identified as 50 Tufts Street and assigned Release Tracking Number (RTN) 3-23246 (the Site).

The Property is a residential building within the Site boundary associated with a historic release of chlorinated Volatile Organic Compounds (VOCs) to soil and groundwater at 50 Tufts Street, located approximately 160 feet northwest of the Property across Tufts Street. From approximately 1955 to approximately 2002, 50 Tufts Street was used for storage and distribution of industrial chemicals, laundry supplies, and dry-cleaning supplies. Chemicals stored at and delivered to and from 50 Tufts Street included chlorinated solvents. These chlorinated VOCs - particularly tetrachloroethylene (PCE), trichloroethylene (TCE), and 1,1,1-trichloroethane (TCA) - have been detected in soil, soil vapor, indoor air, and groundwater at 50 Tufts Street.

In 2009, to address a potential complete vapor intrusion pathway, an Exposure Pathway Mitigation Measure (EPMM) was installed at the Property. In the basement, the EPMM consisted of a new concrete floor and a vapor barrier system both beneath the floor and on the fieldstone foundation walls below the outside grade, together with a venting system beneath the vapor barrier. An Activity and Use Limitation (AUL) was placed on the Property requiring that the integrity of the EPMM be maintained.

The Property is currently undergoing renovation. As part of the renovation, the Owners lowered the basement floor by approximately one foot by demolishing the existing concrete foundation slab and sub-slab piping system and vapor barrier. Construction is being managed so as not to intercept the water table, and dewatering is not necessary.

On June 21, 2023, GEI submitted a RAM Plan to address contemplated changes to activities and uses of the Property as they relate to the previously-installed EPMM. Based on historic (2007 and 2008) and recent (2023) sub-slab soil gas sampling, an updated Unit Risk Factor for PCE (2014) and the “WSC No. 16-435: Vapor Intrusion Guidance,” dated October 2016 (2016 VI Guidance), GEI concluded in the RAM Plan that the EPMM was no longer required to maintain a condition of No Significant Risk (NSR) and could be demolished. However, in response to comments subsequently received from MassDEP, this RAM Plan Modification is now being submitted to provide for a sub-slab venting system and 20 mil vapor barrier to be installed during renovations and for post installation sub-slab soil gas and indoor air testing

to be conducted to evaluate whether an EPMM and an AUL are required to maintain a condition of NSR.

The RAM began in June 2023 and is anticipated be completed in the winter of 2023/2024 when the basement foundation slab sub-slab venting, vapor barrier, and walls are reinstalled and confirmatory sub-slab soil vapor data can be collected.

1. Introduction

GEI Consultants, Inc. prepared this Release Abatement Measure (RAM) Modification Plan 1 and RAM Status Report No. 1 on behalf of Randal and Adriana Isaac (the Owners) for response actions associated with the renovation of 10 Morton Street in Somerville, Massachusetts (the Property; Fig. 1). The Property is located within a Massachusetts Department of Environmental Protection (MassDEP) listed disposal site identified as 50 Tufts Street and assigned Release Tracking Number (RTN) 3-23246 (the Site; Fig. 2).

1.1 Purpose

The Property is subject to an Activity and Use Limitation (AUL). The purpose of this RAM Modification Plan and RAM Status Report No. 1 is to comply with the requirements of the Massachusetts Contingency Plan (MCP, 310 CMR 40.0440) and the requirement of the AUL that “any proposed changes in activities and uses which may result in higher levels of exposure to oil and/or hazardous material than [existed at the time that the AUL was recorded] be evaluated by an LSP who shall render an Opinion in accordance with 310 CMR 40.1080 et seq. as to whether the proposed changes will present a significant risk of harm to health, safety, public welfare, or the environment.”

1.2 Submittals

The MassDEP RAM Transmittal Form (BWSC106) is being submitted electronically via eDEP, and a copy is in Appendix A.

1.3 Background

The Property is in a commercial/residential zoning district, and fronts Morton Street to the northeast, and is bounded by residential property to the north, south, and west. According to the Somerville Assessor’s Database, the existing residential dwelling was built in 1900. The Property is within the Site boundary associated with a historic release of chlorinated Volatile Organic Compounds (VOCs) to soil and groundwater at 50 Tufts Street, located approximately 160 feet southwest of the Property across Tufts Street. From approximately 1955 to approximately 2002, 50 Tufts Street was used for storage and distribution of industrial chemicals, laundry supplies, and dry-cleaning supplies. Chemicals stored at and delivered to and from 50 Tufts Street included chlorinated solvents. These chlorinated VOCs - particularly tetrachloroethylene (PCE), trichloroethylene (TCE), and 1,1,1-trichloroethane (TCA) - have been detected in soil, soil vapor, indoor air, and groundwater at 50 Tufts Street.

Based on the results of assessments conducted to date, the Site includes the 50 Tufts Street property, together with portions of properties in the neighborhood to the east and west. Based on multiple rounds of groundwater measurements, the general direction of groundwater flow at the Site is to the northeast across Tufts Street towards Knowlton and Franklin Streets.

1.4 Project Description

In 2009, to eliminate or mitigate a potential complete vapor intrusion pathway, an Exposure Pathway Mitigation Measure (EPMM) was installed at the Property. In the basement, the EPMM consisted of a new concrete floor and a vapor barrier system both beneath the floor and on the fieldstone foundation walls below the outside grade, together with a venting system beneath the vapor barrier.

Site redevelopment includes renovation of the existing multi-family house. As part of the renovation, the Owners intend to lower the basement floor by approximately one foot by demolishing the existing concrete foundation slab and sub-slab piping system and vapor barrier. Construction is being carried out so as not to intercept the water table, and dewatering is not necessary.

Excess soil generated during construction will be managed by the Owners and their contractor and is outside of the scope of this RAM. Chlorinated VOCs have not been detected above laboratory reporting limits in soil samples collected during the installation of a nearby well and a soil sample collected from beneath the slab, as described in the June 2023 RAM Plan; therefore, soil on the Property is not remediation waste associated with the Site (RTN 3-23246).

1.5 Contact Information (310 CMR 40.0444[1][a])

Responsibility for the RAM

Mr. Randal Isaac
Ms. Adriana Isaac
88 Cross Street
Somerville, MA 02145
781-960-7738

Licensed Site Professional (LSP) for the RAM

Ileen Gladstone, P.G., LSP, LEED AP
GEI Consultants, Inc.
400 Unicorn Park Drive
Woburn, MA 01801
781.424.9924
LSP License No. 9719

2. RAM Status Report No. 1

2.1 Status of Response Operations (310 CMR 40.0445[2][a])

During this reporting period underpinning activities were conducted along the basement foundation walls.

2.2 New Site Information (310 CMR 40.0445[2][b])

No new site information has been obtained during the reporting period between June 21, 2023, and October 19, 2023.

2.3 Remediation Waste (310 CMR 40.0445[2][c])

No remediation waste associated with RTN 3-23246 will be managed as part of this RAM.

2.4 Other Information Required by MassDEP (310 CMR 40.0445[2][d])

No additional information has been requested by MassDEP outside of the scope of the RAM Plan Modification discussed in Section 4.

2.5 LSP Opinion (310 CMR 40.0445[2][e])

The actions described in this status report have been performed in accordance with the RAM Plan.

3. Remediation Waste Management (310 CMR 40.0444[1][d])

No remediation waste associated with RTN 3-23246 will be managed as part of this RAM.

4. RAM Plan Modification (40.0443(4))

4.1 Objectives

The objective of this RAM Plan Modification is to address comments received from MassDEP during a conference call on July 18, 2023, regarding the renovation of the residential building which included lowering the basement floor by approximately one foot and demolishing the existing concrete foundation slab and sub-slab piping system and vapor barrier.

Based on historic (2007 and 2008) and recent (2023) sub-slab soil gas sampling, an updated Unit Risk Factor for PCE (2014) and the “WSC No. 16-435: Vapor Intrusion Guidance,” dated October 2016 (2016 VI Guidance), GEI concluded in the RAM Plan that the EPMM is not required to maintain a condition of No Significant Risk (NSR) and it could be demolished.

During the July 18, 2023 conference call, MassDEP requested a post construction sampling program to supplement existing data regarding site conditions and to determine whether an EPMM and AUL would still be required to maintain a condition of NSR.

4.2 Planned RAM Activities

The building foundation slab, sub-slab piping system, vapor barrier and the lower portion (approximately one-foot) wall vapor barrier system have been demolished and disposed offsite as solid waste. A new foundation slab will be installed.

Based on the depth of soil excavation during the building renovation and the depth to groundwater in the vicinity of the Property, groundwater will not be encountered during building renovation and dewatering is not required.

The renovated building will have a sub-slab venting system that could be retrofitted with a blower to operate as active systems, if necessary; however, it is anticipated that only passive venting will be necessary. The use of a passive venting system is consistent with the 2016 Vapor Guidance since historic sampling indicate that subsurface VOC concentrations at the Site are low. The sub-slab venting system will consist of 12-inch wide low-profile vent strips placed on top of a minimum of 4 inches of crushed stone. A 4-inch diameter perforated PVC pipe embedded in a crushed stone connects the low-profile vent strips to the riser pipe that will be plumbed internally to a vent above the roof line. The system will also include a 20-mil vapor barrier including overlapping and taped seams and pipe boots. A smoke test will be performed after installation of the vapor barrier to confirm integrity of the barrier.

The proposed piping network layout and specifications for the piping network and vapor barrier are included in Appendix B.

4.3 Post Installation Monitoring

We will perform two rounds of sub-slab soil vapor sampling, both with the sub-slab venting system venting, and with it capped, following significant completion of building envelope renovation, to evaluate post-construction sub-slab soil vapor conditions. In addition, GEI will perform sufficient indoor air sampling to evaluate whether a passive sub-slab venting system is effective. At present, two rounds of indoor air sampling are anticipated, based on the assumption that the sub-slab soil vapor samples will be less than two times the Residential Sub-Slab Screening Gas Values. At least one round of sampling will be conducted during the winter months.

The sub-slab soil vapor results collected while the sub-slab venting system is capped will be used to support an evaluation of whether a passive EPMM is necessary to maintain a condition of NSR to building occupants, and to evaluate the need for an AUL to maintain the EPMM.

4.4 Schedule

The RAM is ongoing and should be completed in the spring of 2024 when the basement foundation slab and walls are reinstalled, and confirmatory sampling is completed.

5. Limitations

This RAM Plan was prepared for the use of the Owners and UniFirst. The conclusions presented in this report are based solely on the information contained or referenced in this report. Additional quantitative information regarding the Site that was not available to us may result in a modification of the findings above. The report has been prepared in accordance with generally accepted geohydrological practices. No warranty, express or implied, is made.

6. References

- MassDEP (2019). The Massachusetts Contingency Plan (MCP), 310 CMR 40.0000. December 27, 2019.
- MassDEP (2023). MassGIS Site Scoring Map, 10 Morton Street, Somerville, MA. Massachusetts Department of Environmental Protection. June 1, 2023.
- GEI (2006). IRA Status Report No. 1, 50 Tufts Street, Somerville, MA, RTNs 3-23246, 3-24358 and 3-24376, dated May 8, 2006.
- GEI (2006). IRA Status Report No. 2 and Plan Modification No. 3, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 13, 2006.
- GEI (2007). IRA Plan Modification No. 4, 50 Tufts Street, Somerville, MA, RTNs 3-23246 and 3-26114, dated February 22, 2007.
- GEI (2007). IRA Plan Modification No. 1, 50 Tufts Street, Somerville, MA, RTN 3-26114, dated April 12, 2007.
- GEI (2007). IRA Plan Modification No. 5, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated May 5, 2007.
- GEI (2007). IRA Status Report No. 3, 50 Tufts Street, Somerville, MA, RTN 3-23246 & IRA Status Report No. 1 RTN 3-26114, dated May 10, 2007.
- GEI (2007). Remedial Monitoring Report No. 1, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 30, 2007.
- GEI (2007). Monthly Remedial Monitoring Report No. 2, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 30 2007.
- GEI (2007). Monthly Remedial Monitoring Report No. 3, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 30, 2007.
- GEI (2007). Monthly Remedial Monitoring Report No. 4, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 30, 2007.
- GEI (2007). IRA Plan Modification No. 7, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated October 11, 2007.
- GEI (2007). IRA Plan Modification No. 8, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated October 11, 2007.
- GEI (2007). Monthly Remedial Monitoring Report No. 5, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated October 19, 2007.

- GEI (2007). Monthly Remedial Monitoring Report No. 6A, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated October 31, 2007.
- GEI (2007). Monthly Remedial Monitoring Report No. 6B, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 8, 2007.
- GEI (2007). Monthly Remedial Monitoring Report No. 7A, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 8, 2007.
- GEI (2007). Monthly Remedial Monitoring Report No. 7B, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 8, 2007.
- GEI (2007). IRA Status Report No. 4, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 9, 2007.
- GEI (2008). IRA Status Report No. 5 and Remedial Monitoring Report (RMR) No. 8, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated May 12, 2008.
- GEI (2008). Phase II Comprehensive Site Assessment (CSA), Method 3 Risk Characterization, and Phase III Remedial Action Plan (RAP), 50 Tufts Street, Somerville, MA, RTN 3-23246, dated July 14, 2008.
- GEI (2008). IRA Status Report No. 6 and Remedial Monitoring Report (RMR) No. 9, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 10, 2008.
- GEI (2009). IRA Status Report No. 7 and Remedial Monitoring Report (RMR) No. 10, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated May 11, 2009.
- GEI (2009). Phase IV Remedy Implementation Plan (RIP), 50 Tufts Street, Somerville, MA, RTN 3-23246, dated May 11, 2009.
- GEI (2009). IRA Completion Report and Remedial Monitoring Report (RMR) No. 11, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated May 11, 2009.
- GEI (2010). Phase IV Status Report No. 1 and Remedial Monitoring Report No. 12, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 8, 2009.
- GEI (2010). Phase IV Status Report No. 2 and Remedial Monitoring Report No. 13, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 4, 2010.
- GEI (2011). Phase IV Status Report No. 3 and Remedial Monitoring Report No. 14, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 11, 2011.
- GEI (2011). Immediate Response Action Completion Report Amendment, RTN 3-23246, 50 Tufts Street Site, Somerville, Massachusetts, dated April 1, 2011.
- GEI (2011). Phase IV Final Inspection Report, Remedial Monitoring Report No. 15, and Phase V Remedy Operation Status Report. 50 Tufts Street, Somerville, Massachusetts, dated August 4, 2011.

- GEI (2012). Phase V Status Report No. 1 and Remedial Monitoring Report No. 16, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 10, 2012.
- GEI (2012). Phase V Status Report No. 2 and Remedial Monitoring Report No. 17, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 4, 2012.
- GEI (2013). Phase V Status Report No. 3 and Remedial Monitoring Report No. 18, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 8, 2013.
- GEI (2013). Phase V Status Report No. 4 and Remedial Monitoring Report No. 19, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 2, 2013.
- GEI (2014). Phase V Status Report No. 5 and Remedial Monitoring Report No. 20, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 10, 2014.
- GEI (2014). Phase V Status Report No. 6 and Remedial Monitoring Report No. 21, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 1, 2014.
- GEI (2015). Phase V Status Report No. 7 and Remedial Monitoring Report No. 22, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 2, 2015.
- GEI (2015). Phase V Status Report No. 8 and Remedial Monitoring Report No. 23, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 3, 2015.
- GEI (2016). Phase V Status Report No. 9 and Remedial Monitoring Report No. 24, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 2, 2016.
- GEI (2016). Phase V Status Report No. 10 and Remedial Monitoring Report No. 25, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 3, 2016.
- GEI (2017). Phase V Status Report No. 11 and Remedial Monitoring Report No. 26, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 2, 2017.
- GEI (2017). Phase V Status Report No. 12 and Remedial Monitoring Report No. 27, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 2, 2017.
- GEI (2017). Phase V Status Report No. 13 and Remedial Monitoring Report No. 28, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 2, 2018.
- GEI (2018). Phase V Status Report No. 14 and Remedial Monitoring Report No. 29, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 2, 2018.
- GEI (2019). Phase V Status Report No. 15 and Remedial Monitoring Report No. 30, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 5, 2019.
- GEI (2019). Phase V Status Report No. 16 and Remedial Monitoring Report No. 31, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 2, 2019.
- GEI (2020). Phase V Status Report No. 17 and Remedial Monitoring Report No. 32, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 3, 2020.

GEI (2020). Phase V Status Report No. 18 and Remedial Monitoring Report No. 33,
50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 2, 2020.

GEI (2021). Phase V Status Report No. 19 and Remedial Monitoring Report No. 34,
50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 4, 2021.

GEI (2021). Phase V Status Report No. 20 and Remedial Monitoring Report No. 35,
50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 2, 2021.

GEI (2022). Phase V Status Report No. 21 and Remedial Monitoring Report No. 36,
50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 2, 2022.

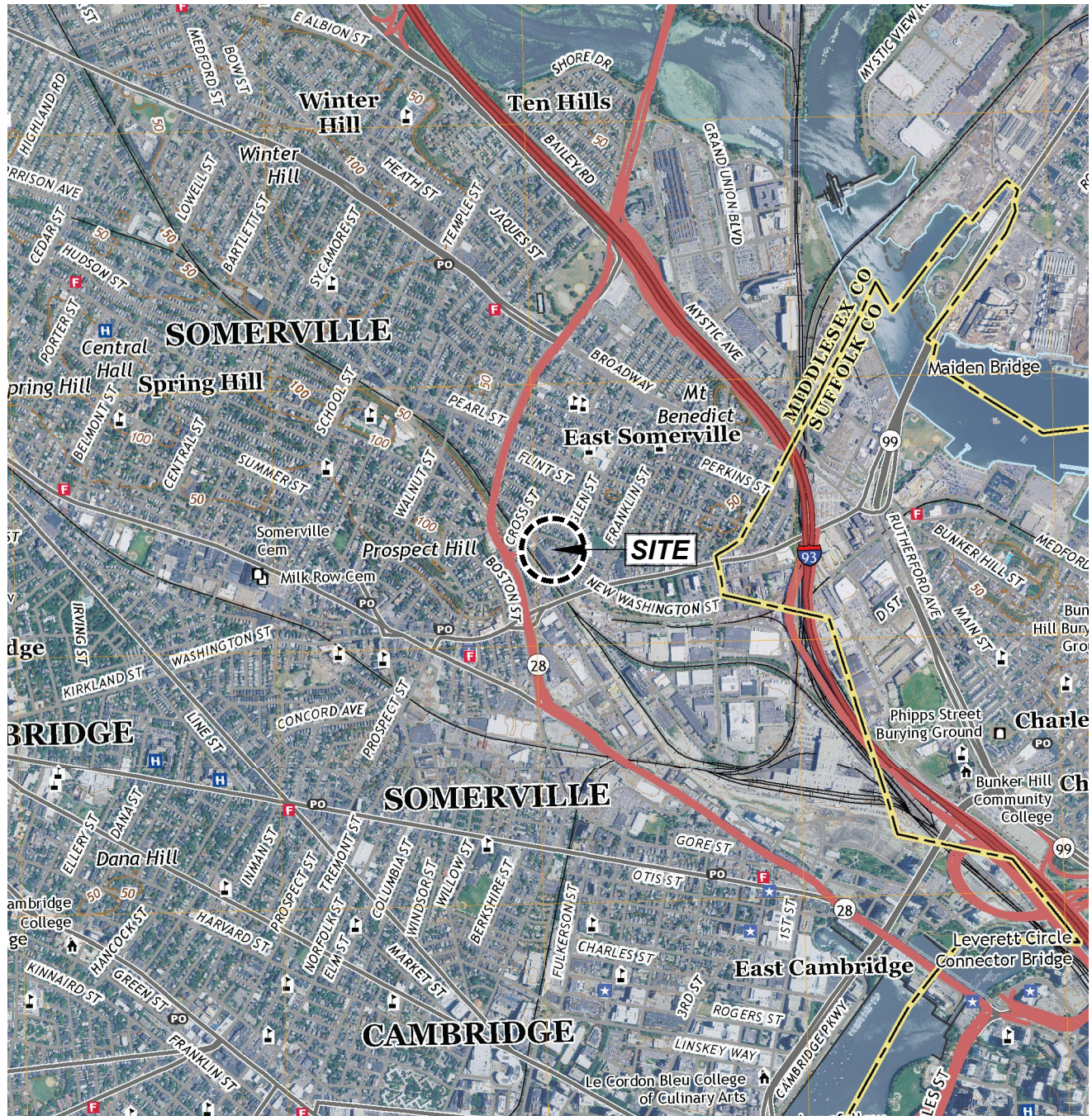
GEI (2022). Phase V Status Report No. 22 and Remedial Monitoring Report No. 37,
50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 2, 2022.

GEI (2023). Phase V Status Report No. 23 and Remedial Monitoring Report No. 38,
50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 2, 2023.

GEI (2023). Release Abatement Measure Plan, 10 Morton Street, Somerville, MA,
RTN 3-23246, dated June 21, 2023.

GEI (2023). Phase V Status Report No. 24 and Remedial Monitoring Report No. 39,
50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 3, 2023.

Figures



This Image is from U.S.G.S. Topographic 7.5 Minute Series
 Boston North, MA Quadrangle, 2018.
 Datum is North American Vertical Datum of 1988 (NAVD88).
 Contour Interval is 10 Feet.



Release Abatement Measure Plan
 50 Tufts Street
 Somerville, Massachusetts

UniFirst Corporation
 Wilmington, Massachusetts

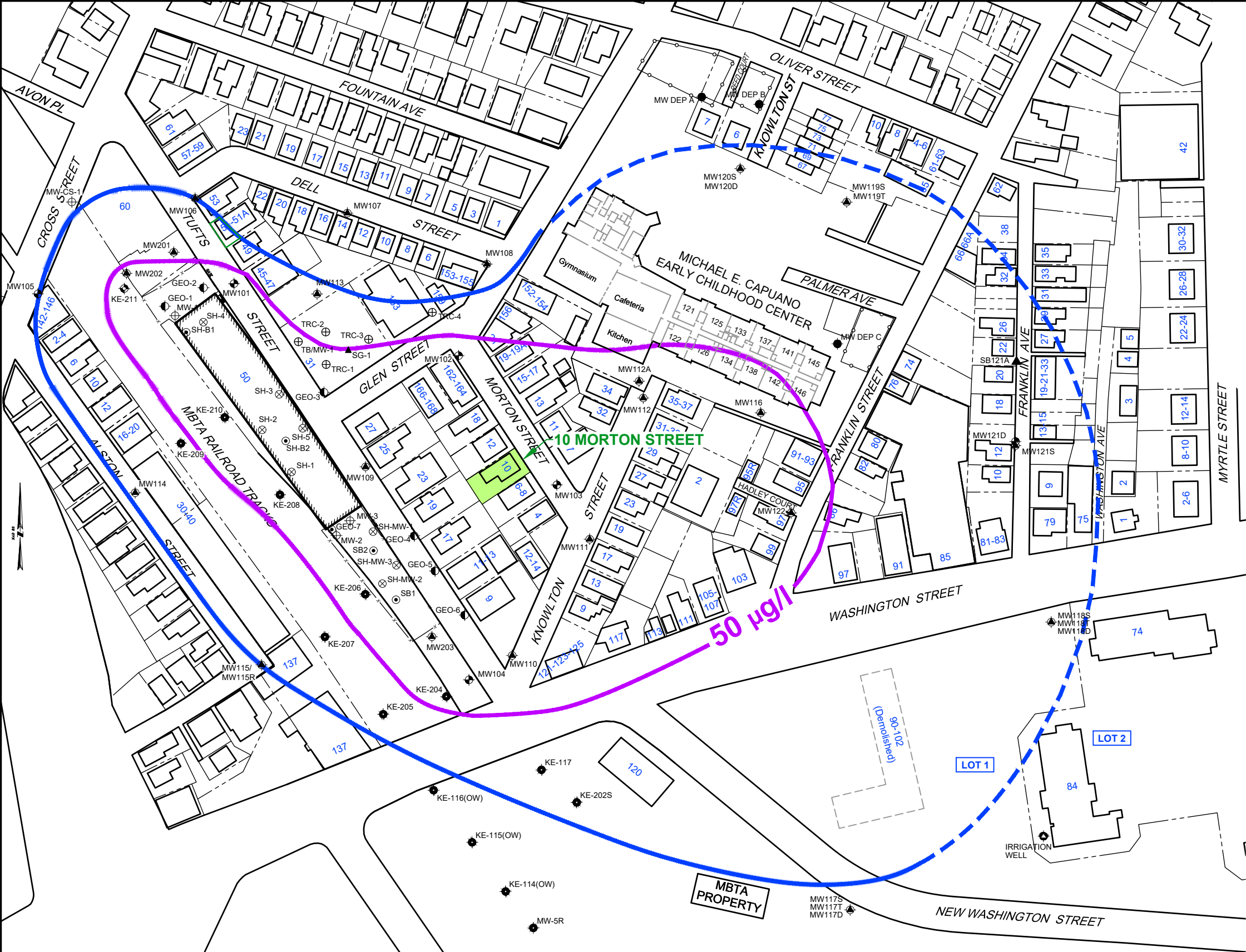


Project 045163

SITE LOCATION MAP

November 2023

Fig. 1



LEGEND:

- ⊕ MONITORING WELL INSTALLED BY TRC, 2014
- ▲ SOIL GAS SAMPLING POINT BY TRC, 2014
- ⊕ MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
- ⊕ MONITORING WELL BY KLEINFELDER, SEPTEMBER 2012, MARCH 2014, AND APRIL 2014
- ⊕ MONITORING WELL INSTALLED BY SANBORN HEAD ASSOCIATES, 2002
- ⊕ MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
- ⊕ SOIL BORING ADVANCED BY GEOINSIGHT, AUGUST 2004
- ⊕ MONITORING WELL INSTALLED BY GEI, MAY 2006
- ⊕ DRIVEN POINT MONITORING WELL INSTALLED BY MADEP, MAY 2007
- ⊕ MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
- ⊕ PREVIOUSLY INSTALLED IRRIGATION WELL

84 STREET ADDRESS

MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

DISPOSAL SITE BOUNDARY (DASHED WHERE INFERRED)

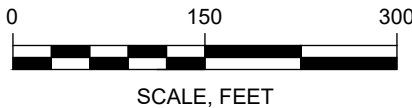
EXTENT OF PCE CONCENTRATION IN SHALLOW GROUNDWATER GREATER THAN OR EQUAL TO 50 MICROGRAMS PER LITER (µg/l)

µg/l = MICROGRAMS PER LITER

PORTION OF SITE SUBJECT TO THE RAM

GENERAL NOTES:

- HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
- STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS' MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
- MONITORING WELL LOCATIONS WERE ESTABLISHED BASED ON THE GROUND SURVEYS BY BSC GROUP, INC.
- GEI OBSERVED ABANDONMENT OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.



Release Abatement Measure Plan
50 Tufts Street
Somerville, Massachusetts
UniFirst Corporation
Wilmington, Massachusetts



10 Morton Street
Portion of Disposal Site
Subject to RAM

Project 045163

November 2023

Fig. 2

MassDEP - Bureau of Waste Site Cleanup

Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

Site Information:

50 TUFTS STREET
10 MORTON STREET SOMERVILLE, MA
3-000023246

NAD83 UTM Meters:

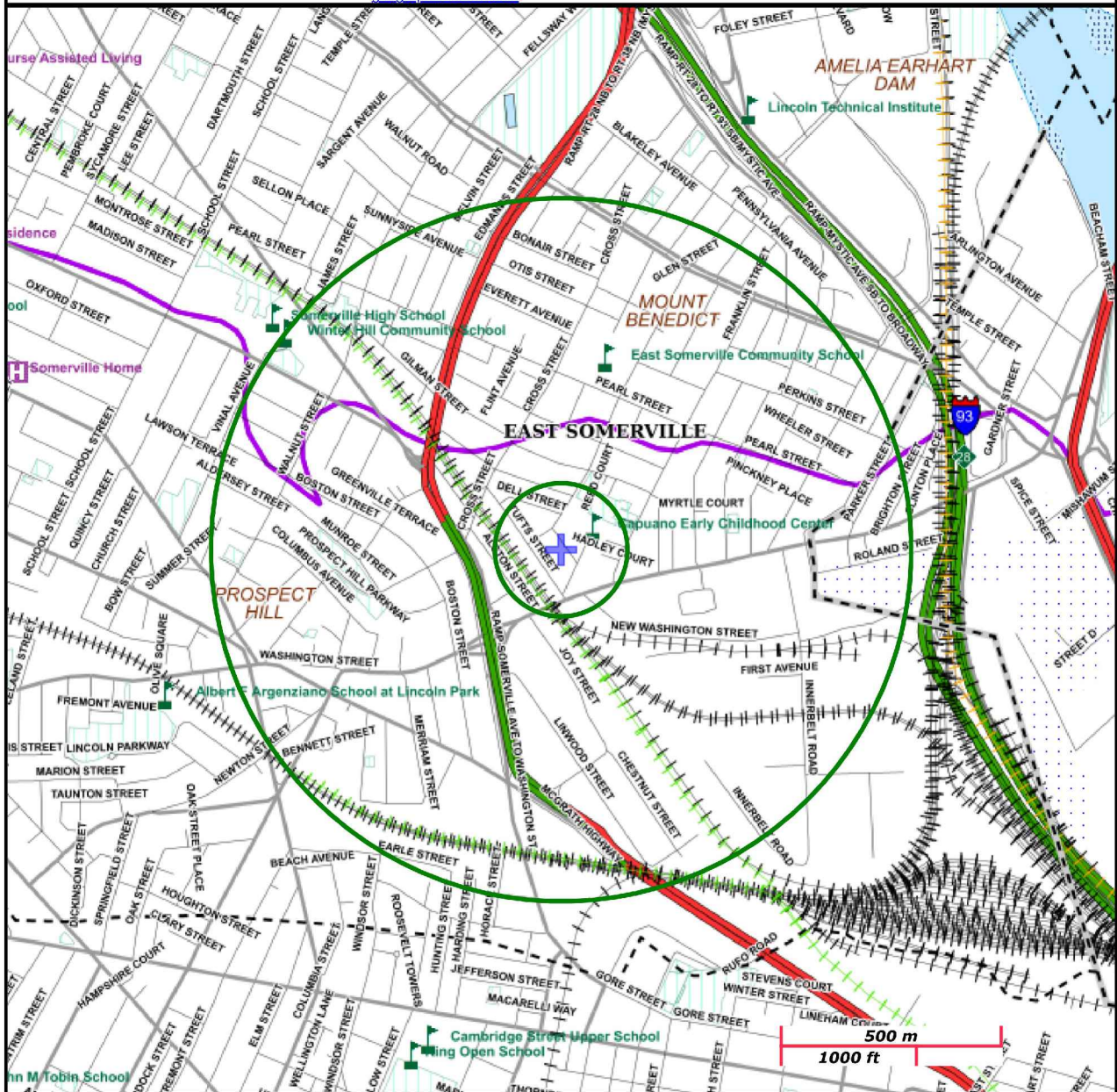
4694304mN , 328137mE (Zone: 19)
June 1, 2023

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at:
<https://www.mass.gov/orgs/massdeps-bureau-of-geographic-information>



MassDEP

Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Trail

Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct

Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam

Aquifers: Medium Yield, High Yield, EPA Sole Source

Non Potential Drinking Water Source Area: Medium, High (Yield)

PWS Protection Areas: Zone II, IWPA, Zone A

Hydrography: Open Water, PWS Reservoir, Tidal Flat

Wetlands: Freshwater, Saltwater, Cranberry Bog

FEMA 100yr Floodplain; Protected Open Space; ACEC

NHESP Pri-Hab of Rare Species; Vernal Pool: Cert, Potential

Solid Waste Landfill; PWS: Com, GW, SW, Emerg, Non-Com

Release Abatement Measure Plan
50 Tufts Street
Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts



Project 045163

MASSDEP GIS MAP

November 2023

Fig. 3



Release Abatement Measure Plan
50 Tufts Street
Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts



Project 045163

10 MORTON STREET
SUB-SLAB SOIL VAPOR POINT
LOCATIONS

November 2023

Fig. 4

Appendix A

MassDEP Transmittal Forms



**RELEASE ABATEMENT MEASURE (RAM)
TRANSMITTAL FORM**

Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

Release Tracking Number

3

- 23246

A. SITE LOCATION:

1. Site Name/Location Aid: 50 TUFTS ST & PROP ACROSS THE ST
2. Street Address: 50 TUFTS ST
3. City/Town: SOMERVILLE 4. Zip Code: 021454129
- ☒ 5. Check here if the disposal site that is the source of the release is Tier Classified. Check the current Tier Classification Category.
- ☐ a. Tier I ☐ b. Tier ID ☒ c. Tier II

B. THIS FORM IS BEING USED TO: (check all that apply)

1. List Submittal Date of Initial RAM Plan (if previously submitted): 6/21/2023
(mm/dd/yyyy)
- ☐ 2. Submit an **Initial Release Abatement Measure (RAM) Plan**.
- ☐ a. Check here if the RAM is being conducted as part of the construction of a permanent structure. If checked, you must specify what type of permanent structure is to be erected in or in the immediate vicinity of the area where the RAM is to be conducted.
- b. Specify type of permanent structure: (check all that apply) ☐ i. School ☐ ii. Residential ☐ iii. Commercial
☐ iv. Industrial ☐ Other Specify: _____
- ☒ 3. Submit a **Modified RAM Plan** for previously submitted RAM Plan.
- ☒ 4. Submit a **RAM Status Report**.
- ☐ 5. Submit a **Remedial Monitoring Report**. (This report can only be submitted through eDEP, concurrent with a RAM Status Report.)
- a. Type of Report: (check one) ☐ i. Initial Report ☐ ii. Interim Report ☐ iii. Final Report
- b. Frequency of Submittal:
- ☐ i. A Remedial Monitoring Report(s) submitted every six months, concurrent with a RAM Status Report.
- ☐ ii. A Remedial Monitoring Report(s) submitted annually, concurrent with a RAM Status Report.
- c. Number of Remedial Systems and/or Monitoring Programs: _____
- A separate BWSC106A, RAM Remedial Monitoring Report, must be filled out for each Remedial System and/or Monitoring Program addressed by this transmittal form.
- ☐ 6. Submit a **RAM Completion Statement**.
- ☐ 7. Submit a **Revised RAM Completion Statement**.
8. Provide Additional RTNs:
- ☐ a. Check here if this RAM Submittal covers additional Release Tracking Numbers (RTNs). RTNs that have been previously linked to a Primary Tier Classified RTN do not need to be listed here. This section is intended to allow a RAM to cover more than one unclassified RTN and not show permanent linkage to a Primary Tier Classified RTN.
- b. Provide the additional Release Tracking Number(s) - -

- ☐ 9. Include in the **RAM Plan** or **Modified RAM Plan** a **Plan for the Application of Remedial Additives** near a sensitive receptor, pursuant to 310 CMR 40.0046(3).

(All sections of this transmittal form must be filled out unless otherwise noted above)



**RELEASE ABATEMENT MEASURE (RAM)
TRANSMITTAL FORM**

Release Tracking Number

3

-

23246

Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

C. RELEASE OR THREAT OF RELEASE CONDITIONS THAT WARRANT RAM:

1. Media Impacted and Receptors Affected: (check all that apply)

☐ a. Paved Surface

☐ b. Basement

☐ c. School

☐ d. Public Water Supply

☐ e. Surface Water

☐ f. Zone 2

☐ g. Private Well

☒ h. Residence

☐ i. Soil

☒ j. Ground Water

☐ k. Sediments

☐ l. Wetland

☐ m. Storm Drain

☒ n. Indoor Air

☐ o. Air

☐ p. Soil Gas

☒ q. Sub-Slab Soil Gas

☐ r. Critical Exposure Pathway

☐ s. NAPL

☐ t. Unknown

☐ u. Others

Specify:

2. Sources of the Release or TOR: (check all that apply)

☐ a. Transformer

☐ b. Fuel Tank

☒ c. Pipe

☐ d. OHM Delivery

☐ e. AST

☒ f. Drums

☐ g. Tanker Truck

☐ h. Hose

☐ i. Line

☐ j. UST

Describe:

☐ k. Vehicle

☐ l. Boat/Vessel

☐ m. Unknown

☐ n. Other:

3. Type of Release or TOR: (check all that apply)

☐ a. Dumping

☐ b. Fire

☐ c. AST Removal

☐ d. Overfill

☐ e. Rupture

☐ f. Vehicle Accident

☐ g. Leak

☒ h. Spill

☐ i. Test Failure

☐ j. TOR Only

☐ k. UST Removal

Describe:

☐ l. Unknown

☐ m. Other:

4. Identify Oils and Hazardous Materials Released: (check all that apply)

☐ a. Oils

☒ b. Chlorinated Solvents

☐ c. Heavy Metals

☐ d. Others Specify:

D. DESCRIPTION OF RESPONSE ACTIONS. (check all that apply, for volumes list cumulative amounts)

☐ 1. Assessment and/or Monitoring Only

☐ 2. Temporary Covers or Caps

☐ 3. Deployment of Absorbent or Containment Materials

☐ 4. Temporary Water Supplies

☐ 5. Structure Venting System/HVAC Modification System

☐ 6. Temporary Evacuation or Relocation of Residents

☐ 7. Product or NAPL Recovery

☐ 8. Fencing and Sign Posting

☐ 9. Groundwater Treatment Systems

☐ 10. Soil Vapor Extraction

☐ 11. Remedial Additives

☐ 12. Air Sparging

☐ 13. Active Exposure Pathway Mitigation System

☒ 14. Passive Exposure Pathway Mitigation System

☐ 15. Monitored Natural Attenuation

☐ 16. In-Situ Chemical Oxidation



**RELEASE ABATEMENT MEASURE (RAM)
TRANSMITTAL FORM**

Release Tracking Number

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Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

D. DESCRIPTION OF RESPONSE ACTIONS (cont.): (check all that apply, for volumes list cumulative amounts)

☐ 17. Excavation of Contaminated Soils

☐ a. Re-use, Recycling or Treatment

☐ i. On Site

Estimated volume in cubic yards

☐ ii. Off Site

Estimated volume in cubic yards

ii.a. Receiving Facility:

Town:

State:

ii.b. Receiving Facility:

Town:

State:

iii. Describe:

☐ b. Store

☐ i. On Site

Estimated volume in cubic yards

☐ ii. Off Site

Estimated volume in cubic yards

ii.a. Receiving Facility:

Town:

State:

ii.b. Receiving Facility:

Town:

State:

☐ c. Landfill

☐ i. Cover

Estimated volume in cubic yards

Receiving Facility:

Town:

State:

☐ ii. Disposal

Estimated volume in cubic yards

Receiving Facility:

Town:

State:

☐ 18. Removal of Drums, Tanks or Containers:

a. Describe Quantity and Amount:

b. Receiving Facility:

Town:

State:

c. Receiving Facility:

Town:

State:

☐ 19. Removal of Other Contaminated Media:

a. Specify Type and Volume:

b. Receiving Facility:

Town:

State:

c. Receiving Facility:

Town:

State:

☐ 20. Other Response Actions:

Describe:

☐ 21. Use of Innovative Technologies:

Describe:



**RELEASE ABATEMENT MEASURE (RAM)
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Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

E. LSP SIGNATURE AND STAMP :

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> if Section B of this form indicates that a **Release Abatement Measure Plan** is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B of this form indicates that a **Release Abatement Measure Status Report** and/or **Remedial Monitoring Report** is being submitted, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) comply (ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B of this form indicates that a **Release Abatement Measure Completion Statement** is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal:

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate, or materially incomplete.

1. LSP #: 9715
2. First Name: ILEEN S 3. Last Name: GLADSTONE
4. Telephone: 7817214012 5. Ext: 6. Email: igladstone@geiconsultants.com
7. Signature:
8. Date: 9. LSP Stamp:
(mm/dd/yyyy)



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC 106

12

**RELEASE ABATEMENT MEASURE (RAM)
TRANSMITTAL FORM**

Release Tracking Number

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23246

Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

F. PERSON UNDERTAKING RAM:

1. Check all that apply: ☐ a. change in contact name ☐ b. change of address ☒ c. change in the person undertaking response actions

2. Name of Organization: RANDAL ISAAC

3. Contact First Name: RANDAL

4. Last Name: ISAAC

5. Street: 10 MORTON STREET

6. Title: _____

7. City/Town: SOMERVILLE

8. State: MA

9. ZIP Code: 021450000

10. Telephone: 7819607738

11. Ext.: _____

12. Email: _____

G. RELATIONSHIP TO RELEASE OR THREAT OF RELEASE OF PERSON UNDERTAKING RAM:

☒ Check here to change relationship

☒ 1. RP or PRP

☐ a. Owner

☐ b. Operator

☐ c. Generator

☐ d. Transporter

☒ e. Other RP or PRP

Specify:

ELIGIBLE PERSON

☐ 2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ 3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ 4. Any Other Person Undertaking RAM

Specify Relationship: _____

H. REQUIRED ATTACHMENTS AND SUBMITTALS:

☐ 1. Check here if any Remediation Waste, generated as a result of this RAM, will be stored, treated, managed, recycled or reused at the site following submission of the Remedial Completion Statement. You must submit a Phase IV Remedy Implementation Plan along with the appropriate transmittal form (BWSC 08).

☐ 2. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

☐ 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the implementation of a Release Abatement Measure.

☐ 4. Check here if any non-updatable information provided on this form is incorrect, e.g. Release Address/Location Aid. Send corrections to bwsc.edep@state.ma.us.

☐ 5. If a RAM Compliance Fee is required for this RAM, check here to certify that a RAM Compliance Fee was submitted to DEP, P. O. Box 4062, Boston, MA 02211.

☒ 6. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC 106

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RELEASE ABATEMENT MEASURE (RAM)
TRANSMITTAL FORM

Release Tracking Number

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Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

I. CERTIFICATION OF PERSON UNDERTAKING RAM:

1. I, _____, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

2. By: _____ 3. Title: _____
(Signature)

4. For: _____ 5. Date: _____
(Name of person or entity recorded in Section F) (mm/dd/yyyy)

☐ 6. Check here if the address of the person providing certification is different from address recorded in Section F.

7. Street: _____
8. City/Town: _____ 9. State: _____ 10. ZIP Code: _____
11. Telephone: _____ 12. Ext.: _____ 13. Email: _____

YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO \$10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE

Date Stamp (EP USE ONLY)

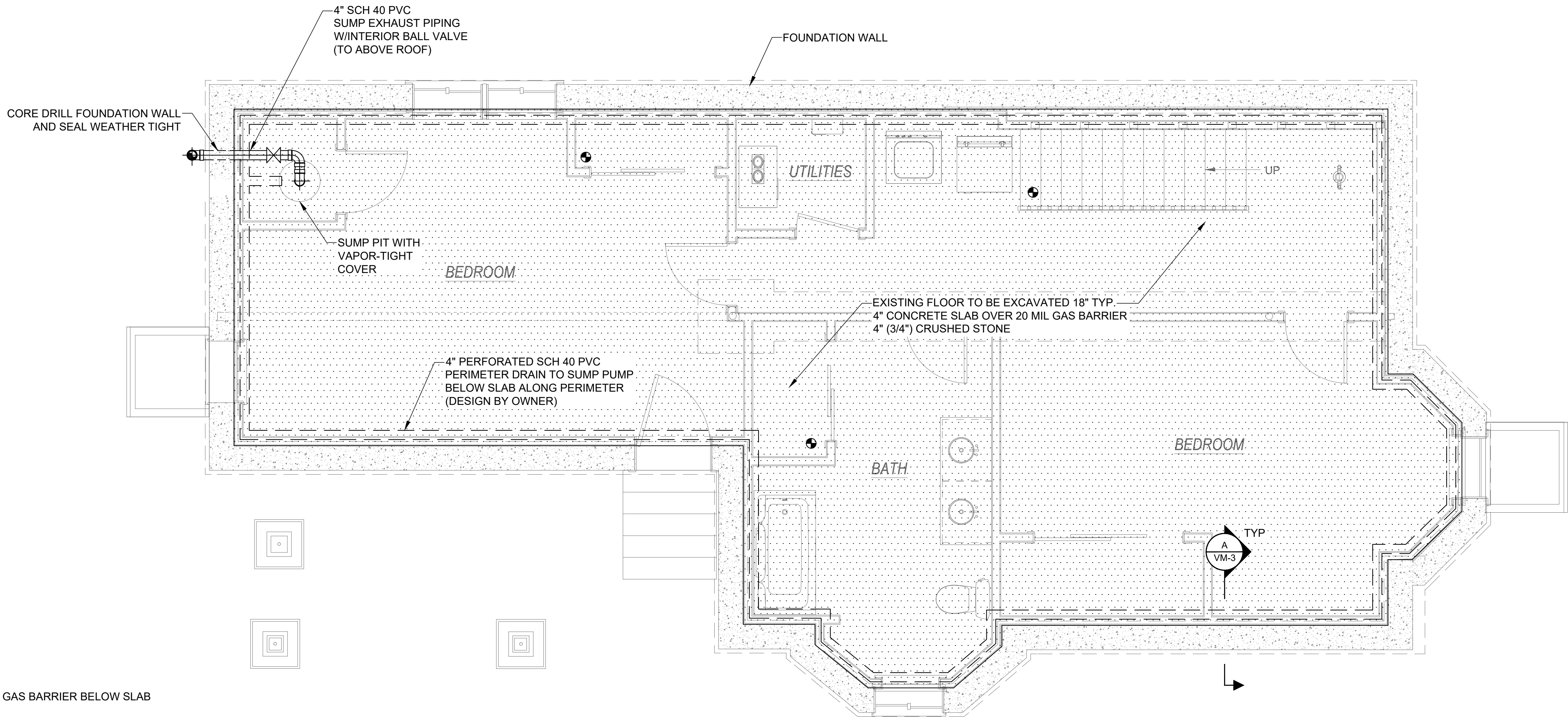


DRAFT COPY

Appendix B

Sub-Slab Vapor Mitigation System Design

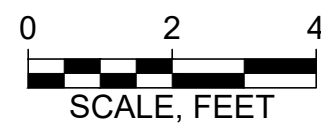
MORIN, JOE B:\Phd\12.2.5 Vapor Mitigation\12.2.5 Vapor Mitigation\10 Morton00_CADD\Design\Working\045163_103-10 Morton-Mitigation.dwg - 10/27/2023



LEGEND

- TOTAL AREA
(HORIZONTAL)
876 SQ. FT.
- EXTENT OF GAS BARRIER BELOW SLAB
 - 4" PERFORATED SCH 40 PVC (SUB-SLAB BY OWNER)
 - VENT - 4" RISER SOLID SCH 40 PVC PIPE
(PITCH PIPE 1% TOWARD SUMP FOR CONDENSATE DRAINAGE)
 - SUB-SLAB MONITORING POINT LOCATION
(RESERVE LOCATIONS FOR INSTALL BY GEI)

PROPOSED BASEMENT PLAN-VAPOR MITIGATION SYSTEM



SCALE: 3/8" = 1'-0"

NOTES:

- THESE PLANS ARE INTENDED FOR THE USE OF A LICENSED CONTRACTOR. HOMEOWNER AND CONTRACTOR ARE TO VERIFY DIMENSIONS, PROPOSED LAYOUT AND BUILDING MATERIALS TO BE USED. THE CONTRACTOR IS RESPONSIBLE TO VERIFY ALL LOCAL BUILDING CODES AND INSTALL PER CODE REQUIREMENTS.
- PLAN BASED ON "PROPOSED BASEMENT PLAN" BY CHRISTOPHER B. QUINN, 7/29/2023.
- FOR ALL FLOOR SLAB PENETRATIONS SEE DETAIL 1/VM-3.

ISSUED FOR BID/PRICING

Attention: 01"0 If this scale bar does not measure 1" then drawing is not original scale.	DRAFT	Designed: L. WELCH	GEI Consultants GEI CONSULTANTS, INC. 400 UNICORN PARK DRIVE WOBURN, MA 01801 (781)721-4000	UNIFIRST CORPORATION	10 MORTON STREET SOMMERVILLE, MASSACHUSETTS					SHEET NAME PROPOSED BASEMENT PLAN VAPOR MITIGATION SYSTEM	SHEET NO. VM-1
		Drawn: J. MORIN									
		Checked: C. CONER									
		Approved: I. GLADSTONE									
		P.E. No: 9719									
		GEI Project 045163									
						1	10/27/2023	ISSUED FOR BID/PRICING	LW		
						0	10/20/2023	INTERNAL DRAFT REVIEW	LW		
						NO	DATE	ISSUE/REVISION	APP		

MORIN, JOE B:\Private\045163\12.0 Mitigation\12.2 Residences\12.2.5 Vapor Mitigation\10 Morton\00_CAD\Design\Working\045163_103-10 Morton-Mitigation.dwg - 10/27/2023



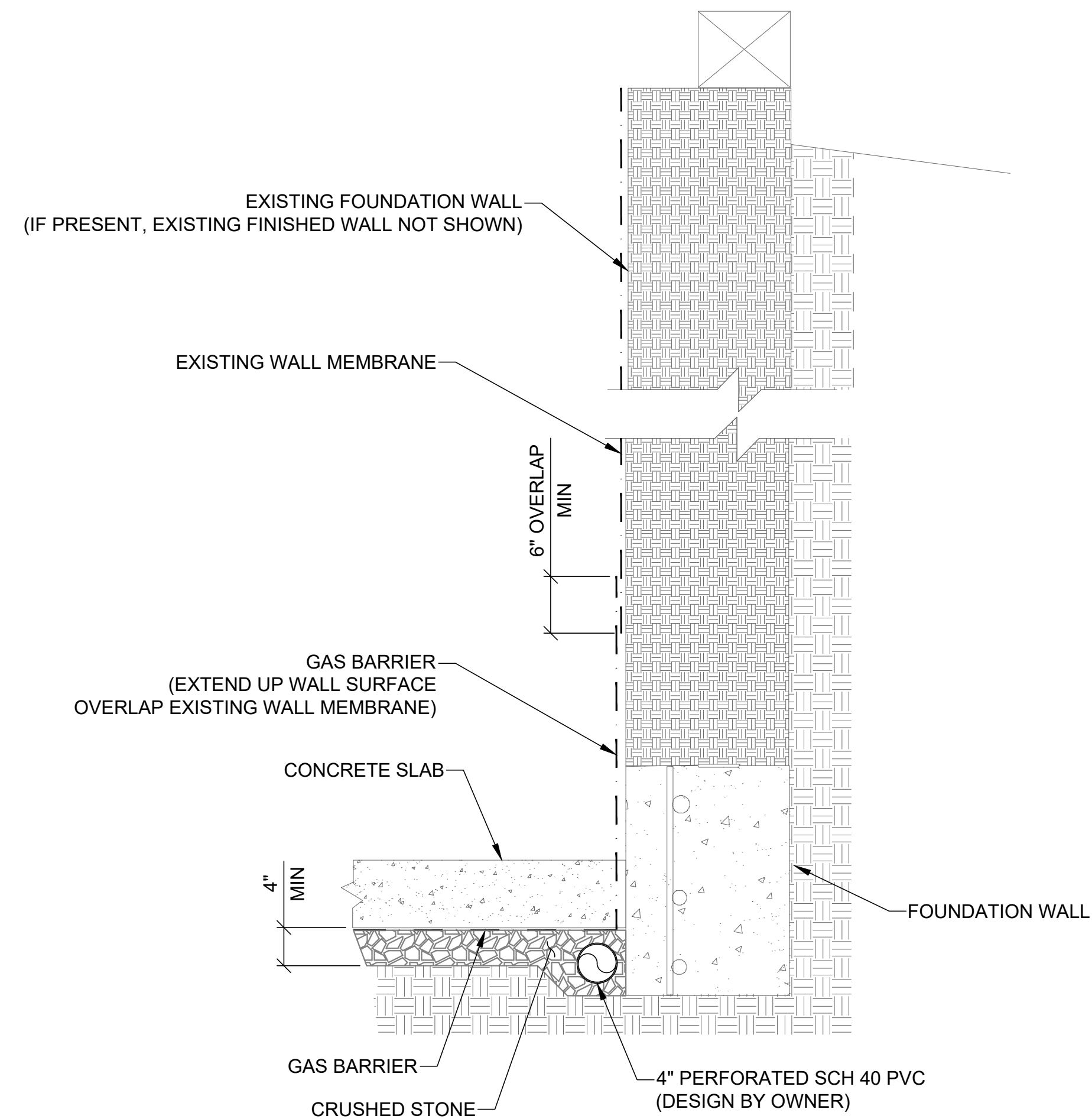
PROPOSED REAR ELEVATION-VAPOR MITIGATION SYSTEM

0 2 4
SCALE, FEET

SCALE: 3/8" = 1'-0"

ISSUED FOR BID/PRICING

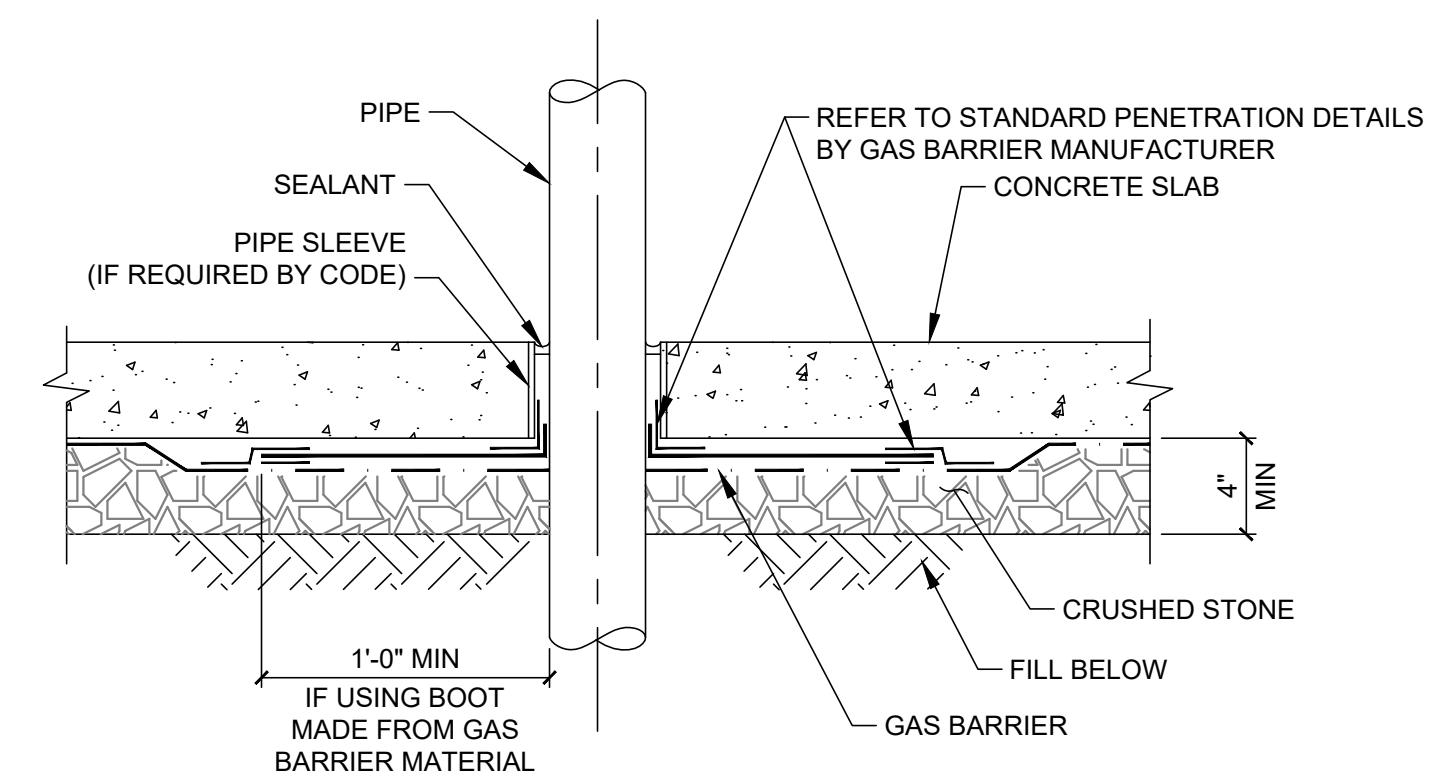
Attention: 01"1" If this scale bar does not measure 1" then drawing is not original scale.	DRAFT	Designed: L. WELCH	GEI Consultants SELECT BLOCK AND CLICK ARROW FOR OFFICE ADDRESS!!	UNIFIRST CORPORATION	10 MORTON STREET SOMMerville, MASSACHUSETTS					SHEET NAME PROPOSED REAR ELEVATION VAPOR MITIGATION SYSTEM	SHEET NO. VM-2
		Drawn: J. MORIN									
		Checked: C. CONER									
		Approved: I. GLADSTONE									
		P.E. No: 9719									
		GEI Project 045163									
						1	10/27/2023	ISSUED FOR BID/PRICING	LW		
						0	10/20/2023	INTERNAL DRAFT REVIEW	LW		
						NO	DATE	ISSUE/REVISION	APP		



NOTE:
WALL DRAINAGE SYSTEM NOT SHOWN FOR CLARITY
SEE STRUCTURAL DRAWINGS FOR EXISTING WALL
DRAINAGE SYSTEM.

SECTION TYPICAL GAS BARRIER INSTALLATION

SCALE: 1-1/2" = 1'-0"



1 DETAIL

VM-1 TYPICAL GAS BARRIER AT PIPE PENETRATION

SCALE: 1-1/2" = 1'-0"

A SECTION

TYPICAL GAS BARRIER INSTALLATION

SCALE: 1-1/2" = 1'-0"

Attention:

0 1"

If this scale bar does not measure 1" then drawing is not original scale.

DRAFT

<i>Designed:</i>	L. WELCH
<i>Drawn:</i>	J. MORIN
<i>Checked:</i>	C. CONER
<i>Approved:</i>	I. GLADSTONE
<i>P.E. No:</i>	9719
<i>GEI Project</i>	045163



UNIFIRST
CORPORATION

10 MORTON STREET
SOMMERVILLE, MASSACHUSETTS

1	10/27/2023	ISSUED FOR BID/PRICING	LW
0	10/20/2023	INTERNAL DRAFT REVIEW	LW
NO	DATE	ISSUE/REVISION	AP

ISSUED FOR BID/PRICING

SHEET NAME

SHEET NO.

VAPOR MITIGATION SYSTEM DETAILS

VM-3